

WE CLAIM AS OUR INVENTION:

1. A magnetic resonance apparatus comprising:
a magnetic resonance scanner having a surface therein;
a gradient coil system disposed in said scanner; and
an adhesive disposed between said gradient coil system and said surface
attaching said gradient coil system to said scanner.
2. A magnetic resonance apparatus as claimed in claim 1 wherein said
gradient coil system has a surface facing said surface of said scanner, and wherein
said adhesive is disposed between said surface of said scanner and said surface of
said gradient coil system.
3. A magnetic resonance apparatus as claimed in claim 1 wherein said
surface of said scanner forms a cavity in which said gradient coil system is disposed
and attached.
4. A magnetic resonance apparatus as claimed in claim 3 wherein said
cavity is cylindrical.
5. A magnetic resonance apparatus as claimed in claim 3 wherein said
cavity has a middle region with a barrel shape.
6. A magnetic resonance apparatus as claimed in claim 1 wherein said
gradient coil system comprises a plurality of gradient coils each formed by multiple
sub-coils, and wherein respective parts of said sub-coils are respectively disposed in
two structurally separate halves of said gradient coil system.
7. A magnetic resonance apparatus as claimed in claim 6 wherein said
surface of said scanner forms a cavity in which said gradient coil system is disposed
and attached, said cavity having a middle region with a barrel shape, and said halves

being separated from each other and respectively disposed at opposite sides of said middle region.

8. A magnetic resonance apparatus as claimed in claim 7 wherein said gradient coil system comprises a carrier on which said halves are mounted separated from each other.

9. A magnetic resonance apparatus as claimed in claim 8 wherein said halves and said carrier each have a hollow cylindrical shape.

10. A magnetic resonance apparatus as claimed in claim 1 wherein said scanner comprises a basic field magnet having said surface to which said gradient coil system is attached.

11. A magnetic resonance apparatus as claimed in claim 1 wherein said adhesive is selected from the group consisting of hard foams and adhesive resins.

12. A magnetic resonance apparatus as claimed in claim 1 wherein said adhesive has a low melting temperature.

13. A magnetic resonance apparatus as claimed in claim 12 wherein said adhesive has a melting temperature in a range between approximately 50°C and 90°C.

14. A magnetic resonance apparatus as claimed in claim 12 wherein said adhesive is a wax.

15. A magnetic resonance apparatus as claimed in claim 14 wherein said wax is selected from the group consisting of stearin, paraffin and carnauba wax.

16. A magnetic resonance apparatus as claimed in claim 12 wherein said gradient coil system comprises at least one coil and a control unit connected to said at least one coil for controlling a quantity flowing in said coil to set a temperature of

said gradient coil system, during operation of said scanner to acquire magnetic resonance data, that is below said melting temperature of said adhesive.

17. A magnetic resonance apparatus as claimed in claim 16 wherein said control unit also controls said quantity to selectively increase said temperature of said gradient coil system above said melting temperature of said adhesive, allowing release of the attachment of said gradient coil system to said scanner.

18. A magnetic resonance apparatus as claimed in claim 16 wherein said gradient coil system comprises a plurality of gradient coils and wherein said at least one coil is at least one of said gradient coils, and wherein said quantity is current.

19. A magnetic resonance apparatus as claimed in claim 16 wherein said gradient coil system comprises a plurality of shielding coils, and wherein said at least one coil is at least one of said shielding coils, and wherein said quantity is current.

20. A magnetic resonance apparatus as claimed in claim 16 wherein said gradient coil system comprises a cooling coil and wherein said at least one coil is said cooling coil, and wherein said quantity is a fluid coolant.